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Mail Stop Appeal
Brief - Patents
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P.O. Box 1450
Alexandria, VA 22313-1450

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Jack Gershfeld

Serial No.: 09/740,065

Filed: December 20, 2000

For: METHOD OF EVALUATING DEGRADATION OF ELECTRICAL SIGNALS

Group Art Unit: 2611

Examiner: Rueben M. Brown

BRIEF ON APPEAL

Sir:

Status of Claims

Claim 1 is subject of this appeal. Claims 2-4 have been cancelled.

Status of Amendments

There were no amendments after final rejection. The amendments in response to the Office Action dated March 11, 2005 have been entered.

Summary of Invention

Video signals, when they pass through cables and various circuits, degrade. This invention allows to evaluate said degradation by way of a side by side comparison of a degraded video signal and a reference signal.

Figure 2 illustrates the method of this invention.

A first video signal (generated by First Test Generator 50) is applied to an input of a circuit at junction A. Passing the first video signal through the circuit causes the circuit to output a degraded video signal at junction B.

The degraded video signal and a reference video signal, identical to the first video signal (generated by Second Test Generator 60) are then synchronized and combined through Video Synchronizer 70. The output of Video Synchronizer 70 is applied to Video Display 40, such that full images of the degraded and reference video signals (50a and 60a) are displayed simultaneously on different portions of the video display. The images of the degraded and reference video signals 50a and 60a are then visually compared side by side to assess degradation of the degraded video signal versus the reference video signal.

Significantly, junctions A and B can be located great distances from each other, which permits testing degradation of video signals originating, for example, at an office on the first floor of a 100 story building and transmitted to a board room on the 100th floor.

Issues

Issue 1 – Whether the term “full image” in the amended claim 1 is supported by the original specification in compliance with 35 U.S.C. Section 112, first paragraph?

Issue 2 – Whether claim 1 is patentable under 35 U.S.C. Section 103(a) over Kaneko, U.S. Patent No. 4,257,066?

The Argument

Issue 1 – Whether the term “full image” in the amended claim 1 is supported by the original specification in compliance with 35 U.S.C. Section 112, first paragraph?

In rejecting claim 1 under 35 U.S.C. Section 112, first paragraph, the Examiner stated as follows:

“Amended claim 1 includes the feature “full image”, which is not found in applicant’s invention. Thus the scope of “full image” is not defined. It is unclear whether “full image” means that the image has not been reduced, i.e. displayed at 100% (which would apparently preclude both images from being displayed simultaneously) or that the image is reduced so that it fits only a portion of the screen, (which allows both images to be displayed simultaneously) but that the whole portion of the image is displayed, for instance.”

However, an application need not contain a word-for-word description of the claimed invention to satisfy 35 U.S.C. Section 112, first paragraph . All that is required is that the application reasonably convey the claimed subject matter (see *Ex parte Parks*, 30 USPQ 2d 1234 (B.P.A.I. 1994)). Further, the originally filed drawings may themselves constitute the requisite written description of the invention if it reasonably conveys the claimed subject matter (see *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 19 USPQ 2d 1111 (Fed.Cir. 1991)).

Here, as the discussion below will show, the originally filed specification and drawings make it clear that “full image” means an image that has not been split, clipped, or otherwise broken in parts. It is also clear from the originally filed specification and drawings that “full image” can be scaled to fit on a certain portion of the screen without being split, clipped or broken in parts.

Specifically, figure 1 shows the original image on the screen of the computer serving as a video signal source (indicated by numeral 10) as a triangle. The degraded image on the screen of a video display device (indicated by numeral 40) is also shown as a triangle. In figure 2, the degraded and reference video signals (50a and 60a) are shown side by side as full triangles, as opposed to partial, clipped or broken triangles.

Further, the original specifications, states as follows:

"The output of Video Synchronizer 70 is placed in electrical communication with Video Display Device 40. First Test Generator 50 and Second Test Generator 60 are designed so that the signal from each of them is displayed on separate portions of Video Display Device 40. In Figure 2, the signal that originated from First Test Generator 50 is shown as Image 50a. Image 50a represents a signal that has been degraded or altered by passing through the circuitry located between Junction A and Junction B. The signal that originated from Second Test Generator is shown in the figure as Image **60A** and represents an unaltered or reference image.

It is within the scope of the invention, that the video signals coming from First Test Generator **50** and Second Test Generator **60**, can be modified so that each image that results from each signal, can be displayed in a plurality of sizes and in any possible position on the video display screen.

By observing Image **50a** and Image **60a** on Video Display Device **40**, it is easy and convenient to determine the extent to which the video signal degrades after passing through the video system represented by the circuitry between Junction **A** and Junction **B**."

Nowhere in the original specification does it say that either reference or degraded image is split, clipped or broken in parts. No means are described in the original specification that would cause either reference or degraded image to be split, clipped or broken in parts.

Based on the above, the applicant respectfully argues that it would be obvious to one of ordinary skill in the art, from reviewing the original specification and drawings, that the term "full image" describes an image that has not been split, clipped, or

otherwise broken in parts, yet an image that can be scaled to fit on a certain portion of the screen without being split, clipped or broken in parts. As such, the term "full image" in the amended claim 1 is supported by the original specification in compliance with 35 U.S.C. Section 112, first paragraph.

Issue 2 – Whether claim 1 is patentable under 35 U.S.C. Section 103(a) over Kaneko, U.S. Patent No. 4,257,066?

As the discussion below will show, this invention is distinguishable from Kaneko. Applicant's argument is supported by declaration of Jack Gershfeld and Exhibit "A" attached to said declaration, both submitted with this Brief.

Exhibit "A" is a simplified diagram of the invention taught by Kaneko '066. Letters A and B refer, in essence, to a TV tuner and VCR tuner, respectively. A broadcast signal from antenna 31 goes to a signal distributor 32 where it is split into two equal signals sent to TV tuner A and VCR tuner B. Outputs of TV tuner A and VCR tuner B (35A and 35B respectively) are applied to a changeover switch 36. Significantly for the issue here, the changeover switch 36 alternates between tuner outputs 35A and 35B and causes the signals from both tuner outputs 35A and 35B (through the circuitry not shown in Exhibit "A") to be displayed on upper and lower portions of TV screen 12 for simultaneous viewing.

VCR 20 is equipped with a "Record" button 21. Record button 21 also controls the changeover switch 36 such that when the record button 21 is "on", the changeover switch 36 switches to output 35A, recording begins and only one signal (from output 35A) is displayed on TV screen 12.

(a) In the present invention, full images of the reference and degraded signals are displayed 100% of the time, in contrast with Kaneko where the images from TV and VCR tuners are displayed in turns during the first and second halves of each field

The only similarity between the present invention and Kaneko is that a viewer can see images from two sources displayed on different portions of a screen (i.e. side by side or top and bottom) for comparison. This is where the similarity ends. In the present invention, full images (i.e. images that has not been split, clipped, or otherwise broken in parts) of the degraded and reference video signals (50a and 60a) are displayed simultaneously side by side of the video display 100% of the time. This means there is no switching between the degraded and reference video signals during halves of fields in order to display them side by side. Displaying full images of the degraded and reference video signals 100% of the time is necessary for the objective of this invention – assessing the degradation of the video signals as they pass through a circuit. First Test Generator 50 and Second Test Generator 60 in the present invention may utilize various test patterns to test for degradation. If full images of the degraded and reference video signals are not displayed 100% of the time, details of degradation may be lost during comparison.

In contrast, claim 1 in Kaneko '066, states, in part as follows:

“ ... switch means having a control input receiving a control signal for selectively applying one of said first and second video signals to said display means in response to first and second states, respectively, of said control input and for selectively controlling, in response to said states of said control inputs, from which of said first and second video signals said display means derives its visual and synchronizing information ...”

The specification in Kaneko '066, states, in part as follows:

"... Thus, during the first half of each field, both video and synchronizing signals are derived from video detector 35B. During the second half of each field, the video to be displayed on cathode ray tube 12, and from which the synchronizing signals have been removed by limiter 57, is derived from video detector 35A ...

....the picture displayed on cathode ray tube 12 includes a portion on the upper half screen containing video from video detector 35B adjacent to a portion on the lower half screen containing video from video detector 35A. Thus, direct comparison of the video in the two channels can be made to ensure that the same channel is being tuned ..."

It appears, therefore, that full images of signals derived from the tuner outputs 35A and 35B are never displayed simultaneously 100% of the time. Rather, at any given time, the viewer only sees a half of the image from the output 35A and a half of the image from the output 35B. A contrary conclusion is affront to the above quotes from claim 1 and specification in Kaneko '066, as well as the fact that the images displayed on the screen 12 (see Exhibit "A" and figures 1 and 2 in Kaneko '066) come from the changeover switch 36 that switches (alternates) between the tuner outputs 35A and 35B – it would be apparent to the persons knowledgeable in the pertinent arts that the changeover switch 36 cannot be placed in both switching positions at the same time.

Therefore, this invention is patentably distinguishable from Kaneko '066.

(b) The present invention can be used to assess degradation of video signals of circuits having virtually unlimited distance between the video source and video display, which cannot be done by utilizing Kaneko

The Examiner, in support of the rejection under 35 U.S.C. Section 103, stated as follows:

" 'placing a second video signal identical to the first video signal, in communication with the second input of the means of synchronizing and combining' reads on the disclosure in Kaneko that one of the inputs to the

monitor 11, may be from a VCR tape, col. 7, lines 1-10 & col. 8, lines 54-60. Kaneko does not state that the content of the VCR is the same as the first video signal, even though the invention is directed to comparing these two signals. Nevertheless, as for the content of the tape, such a feature falls within the scope of 'intended use'. In other words, the content of the tape may be the same as the video program being broadcast and received via antenna 31" [Emphasis added]

The Examiner argues, in essence, that a VCR tape containing the same information as the broadcast program can be used in the same fashion as Second Test Generator 60 in the present invention that generates the signal identical to the signal generated by First Test Generator 50 in the present invention, which is applied to the circuit for testing. The Examiner is incorrect. There is no disclosure or suggestion in Kaneko '066 of comparing the playback from VCR with any other signal. In fact, based on the schematics of figures 1 and 2 in Kaneko '066 (which is also evident from Exhibit "A"), playback from VCR 20 cannot be displayed for comparison on screen 11 (i.e. side by side or top to bottom with any other image). Rather, the signals derived from the tuner outputs 35A and 35B (as opposed to the VCR playback) are displayed for comparison.

Further, even if, for the sake of an argument, Kaneko '066 suggests comparing VCR playback with the broadcast signal, Kaneko '066 certainly does not disclose or suggest disconnecting VCR 20 from the signal distributor 32, placing it next or close to the changeover switch 36 and then comparing the VCR playback with the broadcast signal.

Suppose the distance between VCR 20 (see Exhibit "A") and the changeover switch 36 is 10 miles. A 10 mile worth of cables needed to connect VCR 20 to the changeover switch 36 will cause such degradation of the video signal from VCR 20

playback that comparing it with the broadcast signal to assess degradation will be meaningless.

In contrast, in the present invention, Junction A can be located 10 miles (or any distance for that matter) from Junction B (see Fig. 2), which permits testing circuits of unlimited length for degradation. For this reason, this invention is patentably distinguishable from Kaneko '066.

Moreover, both signals being compared in Kaneko '066 derive from the same broadcast signal from antenna 31 from where the signal distributor 32 splits the broadcast signal into two equal signals (see Exhibit "A"). In contrast, in the present invention, two completely separate signals from First Test Generator 50 and Second Test Generator 60 are being compared. Once again, this allows testing circuits of unlimited lengths for degradation.

Therefore, claim 1 is patentable under 35 U.S.C. Section 103(a) over Kaneko, U.S. Patent No. 4,257,066.

Conclusion

For the extensive reasons advanced above, the Applicant respectfully but forcefully contends that claim 1 is patentable. Therefore, reversal of all rejections is courteously solicited.

Respectfully submitted,


Vladimir Khiterer

APPENDIX

1. A method of evaluating degradation of a video signal caused by a circuit comprising the steps of:

- (a) placing a first video signal in communication with an input of the circuit;
- (b) passing the first video signal through the circuit thereby causing the circuit to output a degraded video signal;
- (c) providing a means of synchronizing and combining video signals having at least a first and a second input and one output, placing the degraded video signal in communication with the first input of the means of synchronizing and combining video signals;
- (d) placing a reference video signal, identical to the first video signal, in communication with the second input of the means of synchronizing and combining video signals;
- (e) placing the output of the means of synchronizing and combining video signals in communication with a video display such that full images of the degraded and reference video signals are displayed simultaneously on different portions of the video display; and
- (f) visually comparing said full images to assess degradation of the degraded video signal versus the reference video signal.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first-class mail in an envelope addressed to:

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On October 26, 2005



Signature

Vladimir Khiterer

Typed or printed name of person signing certificate



DECLARATION OF JACK GERSHFELD

I, Jack Gershfeld, declare as follows:

1. I am thoroughly familiar with the current application and I am thoroughly familiar with the U.S. Patent No. 4,257,066 to Kaneko ("Kaneko '066"). I am knowledgeable in the pertinent arts to the current application and Kaneko '066 by virtue of my Masters degree in Electrical Engineering and many years of running companies in the electronics industry.
2. It would be obvious to one of ordinary skill in the art, from reviewing the original specification and drawings in this application, that the term "full image" describes an image that has not been split, clipped, or otherwise broken in parts, yet an image that can be scaled to fit on a certain portion of the screen without being split, clipped or broken in parts.
3. Exhibit "A" attached to this declaration is a simplified diagram of the invention taught by Kaneko '066. Letters A and B refer, in essence, to a TV tuner and VCR tuner, respectively. A broadcast signal from antenna 31 goes to a signal distributor 32 where it is split into two equal signals sent to TV tuner A and VCR tuner B. Outputs of TV tuner A and VCR tuner B (35A and 35B respectively) are applied to a changeover switch 36. The changeover switch 36 alternates between tuner outputs 35A and 35B and causes the signals from both tuner outputs 35A and 35B (through the circuitry not shown in Exhibit "A") to be displayed on upper and lower portions of TV screen 12 for simultaneous viewing.

VCR 20 is equipped with a "Record" button 21. Record button 21 also controls the changeover switch 36 such that when the record button 21 is "on", the changeover

switch 36 switches to output 35A, recording begins and only one signal (from output 35A) is displayed on TV screen 12.

4. The only similarity between the present invention and Kaneko '066 is that a viewer can see images from two sources displayed on different portions of a screen (i.e. side by side or top and bottom) for comparison. This is where the similarity ends. In the present invention, full images (i.e. images that has not been split, clipped, or otherwise broken in parts) of the degraded and reference video signals (50a and 60a) are displayed simultaneously side by side of the video display 100% of the time. This means there is no switching between the degraded and reference video signals during halves of fields in order to display them side by side. Displaying full images of the degraded and reference video signals 100% of the time is necessary for the objective of this invention – assessing the degradation of the video signals as they pass through a circuit. First Test Generator 50 and Second Test Generator 60 in the present invention may utilize various test patterns to test for degradation. If full images of the degraded and reference video signals are not displayed 100% of the time, details of degradation may be lost during comparison.

In contrast, in Kaneko '066, full images of signals derived from the tuner outputs 35A and 35B are never displayed simultaneously 100% of the time. Rather, at any given time, the viewer only sees a half of the image from the output 35A and a half of the image from the output 35B. It is evident from Kaneko '066 that the images displayed on the screen 12 (see Exhibit "A" and figures 1 and 2 in Kaneko '066) come from the changeover switch 36 that switches (alternates) between the tuner outputs 35A and 35B – it is absolutely clear that the changeover switch 36 cannot be placed in both switching positions at the same time.

5. Based on the schematics of figures 1 and 2 in Kaneko '066 (which is also evident from Exhibit "A"), playback from VCR 20 cannot be displayed for comparison on screen 11 (i.e. side by side or top to bottom with any other image). Rather, the signals derived from the tuner outputs 35A and 35B (as opposed to the VCR playback) are displayed for comparison.

Further, Kaneko '066 does not disclose or suggest disconnecting VCR 20 from the signal distributor 32, placing it next or close to the changeover switch 36 and then comparing the VCR playback with the broadcast signal.

Suppose the distance between VCR 20 (see Exhibit "A") and the changeover switch 36 is 10 miles. A 10 mile worth of cables needed to connect VCR 20 to the changeover switch 36 will cause such degradation of the video signal from VCR 20 playback that comparing it with the broadcast signal to assess degradation will be meaningless.

In contrast, in the present invention, Junction A can be located 10 miles (or any distance for that matter) from Junction B (see Fig. 2), which permits testing circuits of unlimited length for degradation. For this reason, this invention is patentably distinguishable from Kaneko '066.

Moreover, both signals being compared in Kaneko '066 derive from the same broadcast signal from antenna 31 from where the signal distributor 32 splits the broadcast signal into two equal signals (see Exhibit "A"). In contrast, in the present invention, two completely separate signals from First Test Generator 50 and Second Test Generator 60 are being compared. Once again, this allows testing circuits of unlimited lengths for degradation.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; all statements made herein were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful statements and the like may jeopardize the validity of the above-captioned application, and any patent issuing thereon.


Signature:  Date: October 26, 2005
JACK GERSHFELD

EXHIBIT "A"

